Nevada State Climate Office

Photo by B. Hatchett

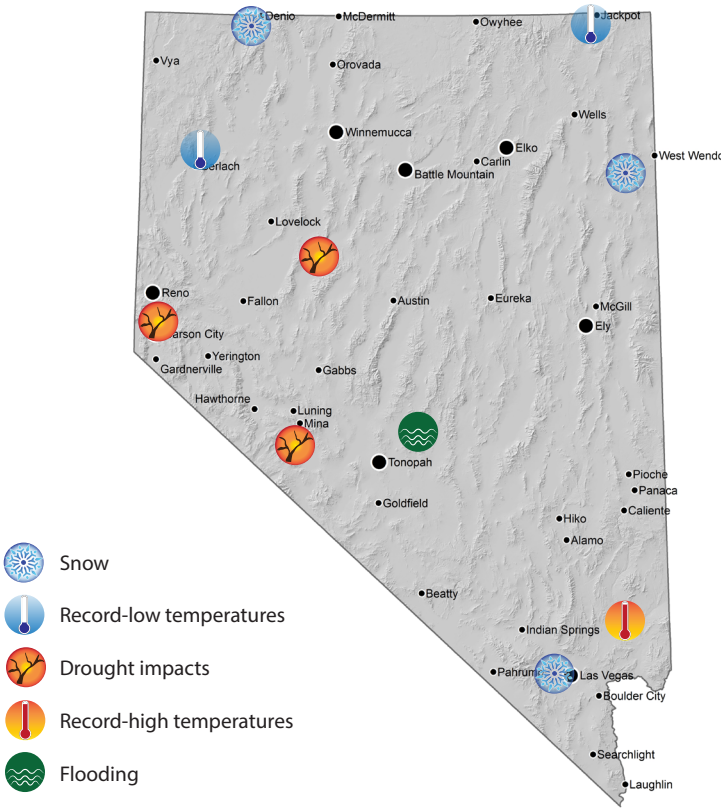
Quarterly Report and Outlook

Informe Trimestral y Pronóstico en línea

www.unr.edu/climate/climate-summary

October - December 2015

Notable Weather and Climate in Nevada



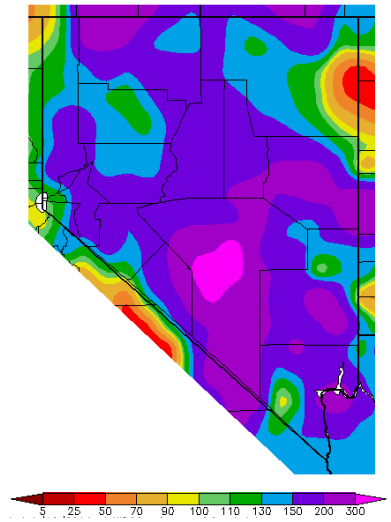
Generally wet conditions throughout the fall have helped to reduce the severity of long-term drought. As of early January, less than 10% of the state was in Exceptional or D4 drought, a big improvement from three months ago when nearly 16% of the state was experiencing D4 drought.

To just about everyone's relief, it has been snowing! As of the end of 2015, SNOTEL stations in eastern and far northern Nevada were all over 150% of normal snow water equivalent for late December. The Truckee, Walker, Carson and Tahoe Basins ranged from 105% to 134% of mid-winter normal. This puts us on track for normal spring totals, but keep your fingers crossed for continued snow. Despite recent rain and snow, reservoirs in the state are still low.

Other highlights include:

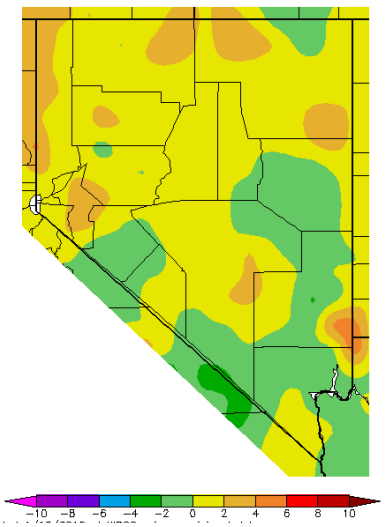
- Heavy October rains in the south shut down parts of US 95 and US 6.
- High nighttime temperatures continued through October, especially in southern Nevada.
- A Thanksgiving cold snap brought record cold to Reno and a low of -19°F to Jackpot.
- December brought record snowfall to Denio (29.9") and flurries to Clark County.

October - December Precipitation Percent of Normal



http://www.wrcc.dri.edu

October - December Temperature Difference from Normal



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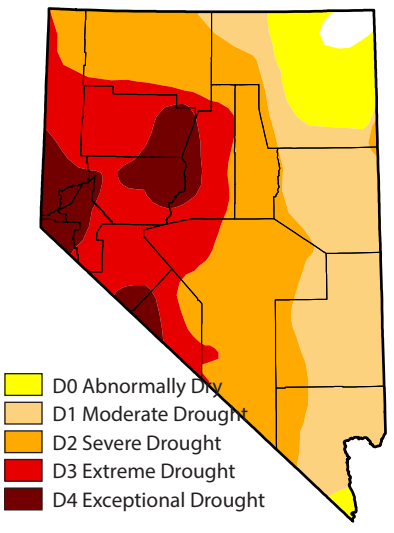
January 5 Drought Monitor



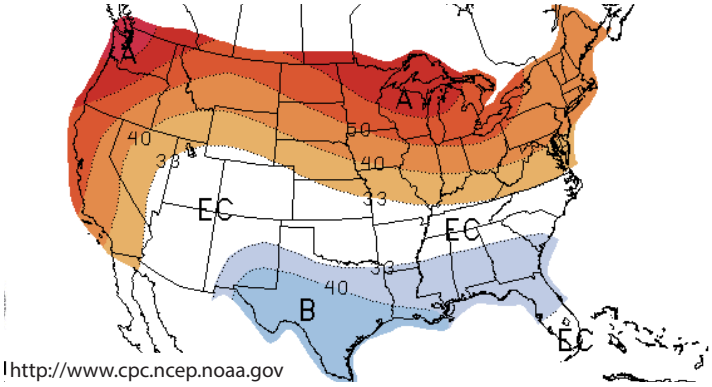
http://droughtmonitor.unl.edu

State Climatologist, Douglas Boyle (douglasb@unr.edu)
Dep. State Climatologist, Stephanie McAfee (smcafee@unr.edu)

Spanish translation, Chelsea Canon

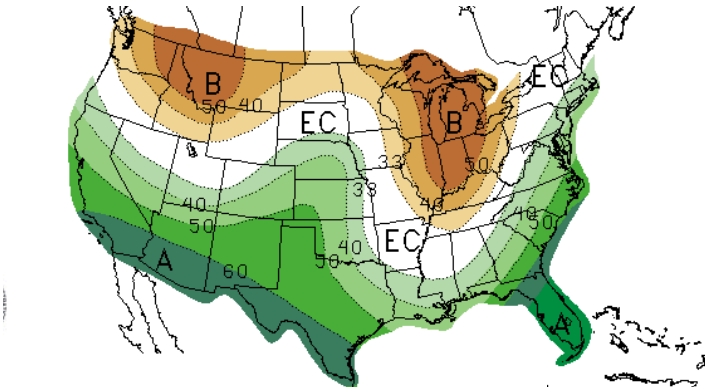
Three-month outlook

Temperature



http://www.cpc.ncep.noaa.gov

Precipitation



Now that winter is here, much of Nevada can expect cool temperatures and even snow. Of course, that's all relative, with December nighttime lows in the 30's common in and around Las Vegas and average minimum temperatures in the 10's in Elko County. Continuing El Niño conditions influence the overall cool, wet south/warm, dry north pattern and are promising for rain in southern Nevada, with a better than 50% chance of above normal precipitation there. The particularly strong El Niño means a 33% percent chance of a wet winter as far north as Washoe County. The strong El Niño also increases the odds that Nevada will be warm. All but extreme eastern Nevada has a 33% to 50% change of a warmer than normal winter.

In depth

How do they measure snow?

Snow amounts are tallied in different ways, depending on who's measuring and why. Two of most the common measurements are ***snow depth*** and ***snow water equivalent.***

Most of us are familiar with ***snow depth***. It's simply the distance from the top of the snow to the ground below. It's useful if you're interested in how much snow there is at the ski resort or whether you'll lose a short-legged dog in the drifts. Measuring it can be suprisingly challenging, though. The old-fashioned method is to stick a ruler through the snow to a snowboard or other flat, hard surface. What's tricky about this is that snow settles as it accumulates, so if you measure the snow right when it stops falling, you'll measure more snow than if you wait a few hours. Snow depth can also vary. There might be less snow under an overhang or more snow in a drift. New sensors, like those at SNOTEL sites, track the distance between the top of the snow and the sensor hanging above.

Snow water equivalent or SWE (pronounced swee) measures the amount of water in the snowpack. If you want to know about streamflow or about reservoir forecasts, this is the number you need because the same depth of snow can have very different amounts of water. This is obvious when clearing the driveway — shoveling three inches of Sierra Cement is a lot harder than shoveling three inches of champagne powder. Snow water equivalent can be determined by collecting a set amount of snow, melting it and measuring the volume or water. On large scales, such as at Snow Courses, this would be difficult, so it's often estimated by measuring snow depth, collecting a set amount of snow, weighing it and then calculating the total amount of water. SWE can also be tracked using a snow pillow, which continually weighs the snow on it. This is how it's often done at SNOTEL sites.

Want to measure snow at your place? It doesn't require much. Check out these helpful tips from NOAA. There's even a video. https://madis-data.noaa.gov/snow_measurements.html#SWE_of_Total_Snow_Depth

Photo by D. Boyle

For more information check out the Nevada State Climate Office webpage http://www.unr.edu/climate